

Energy Audit Report

(Extraction from Green Audit report)

VANALOK

environmental sustainability

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1st September 2022

CERTIFICATE

This is to certify that SJB Institute of Technology Bangalore has conducted detailed Environmental Green Audit of their campus and has submitted necessary data and credentials for scrutiny. The activities and measures carried out by the college have been verified based on the report submitted and was found to be satisfactory. The efforts taken by the faculty and students towards environment and sustainability is highly appreciated and commendable.

Director



Vanalok Private Ltd

Green Audit conducted By

Anisha

Anisha Udaykumar

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Dr.
Principal

SJB Institute of Technology
67, BGS Health & Education City,
Dr. Vishnuvardhan Road,
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Vanalok Pvt Ltd is an eco-enterprise registered at Bengaluru

4.2 Energy Management:

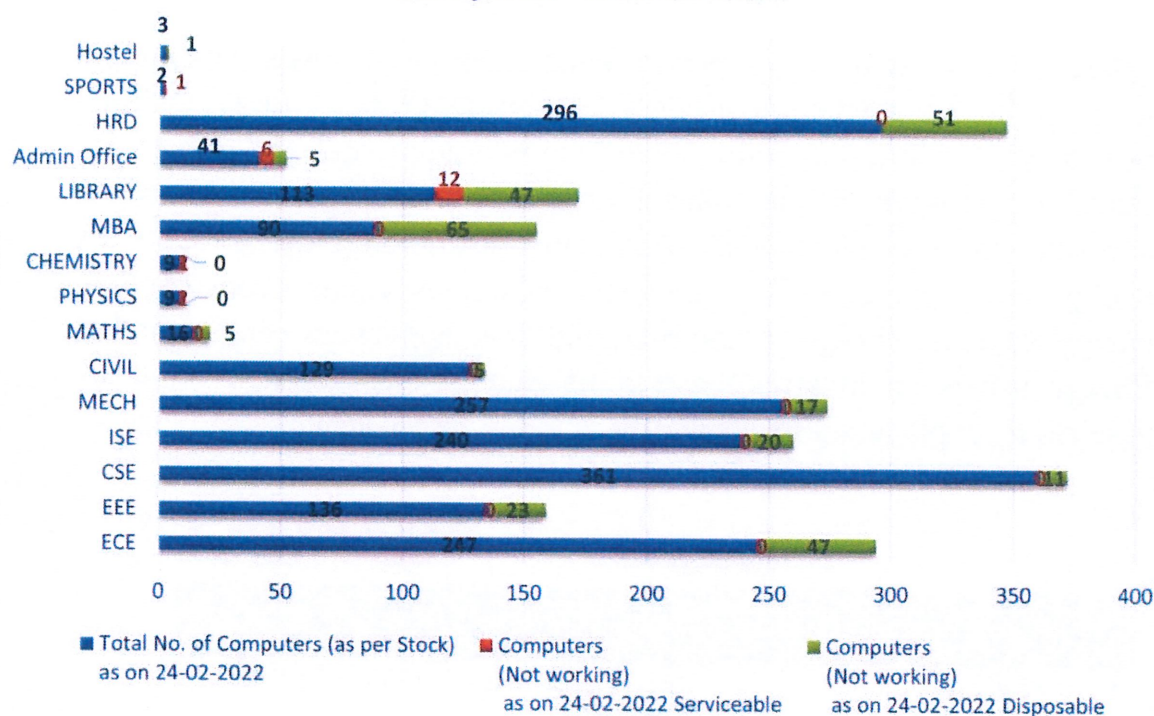
Energy conservation is an important component of campus sustainability, as it is linked to the institution's carbon footprint. Energy auditing primarily is associated with energy conservation and techniques for reducing consumption that contributes to environmental degradation. As a result, any environmentally conscious institution must evaluate its energy usage policies. This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, and vehicles. Energy use is an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

Sl No.	Load	Numbers
1	Lights	1612 (Tube lights – 1333 + LED 172+ CFL - 107)
2	HV AC system	Fans – 901 AC – 7
3	Motors	Borewell – 4 Lift – 4

Sl No.	Specifications	Power	Qty
1	Kirloskar Diesel Generator Sets	250KAV	1
2	Cummins Diesel Generator Set	320KVA/415V	1

Solar Meter Readings	Total units (Feb 2022)
ECE - EEE Block	27,808
MECH – CIVIL Block	17,648

Computer Information



Observations:

Energy is one resource that is used in every branch of the institution. The primary source of energy is electricity and the total energy consumption for the FY 2021-22 is 730,812.5 Units respectively. Apart from this, there is a provision for a generator for emergencies. The college also uses UPS (36 numbers) on every floor for backup during power outages. All the rooms are well-lit and have enough and more provisions for natural lighting thereby saving a lot of energy in the day times. Apart from this the institution is slowly phasing out their older lighting to CFL's. The authorities have taken extra care to purchase only Energy Star certified equipment to ensure efficient usage of energy. The management has utilized its terrace space and invested in solar energy which is a renewable energy resource and the energy harvested is sent to the electricity department for a waiver in the electric bills. The total capacity of the solar power plant is 423.68 kW. The panels are spread over an area of 90000 sqft of the terrace space.

**Recommendations:**

1. Existing UPS system needs to be upgraded to smart UPS system which will help the institution to save energy.
2. Foot valves shall be used to automatically switch off the water supply when the tank reaches optimal levels. This could help save both energy as well as water. Automatic bore well management systems with sensors at the overhead tank as well as underground would help pump water only in case of shortages.
3. Using Brushless Direct Current Fans could help reduce the consumption by half. All traditional electric appliances shall be replaced with energy-efficient ones to reduce power consumption and wastages.
4. Lighting in some areas such as the toilets can be controlled by PIR (passive infrared light) sensors.
5. Holding power conservation and awareness events could help keep the college community engaged.
6. Switch on the energy saving modes in computers so that the system would shut down when there is no activity or idle.

5. Summary:

An audit of natural resources is an important tool for ensuring that natural resources are being used in an eco-friendly and sustainable manner. Green auditing is the process of determining whether institutional practices are environmentally friendly and sustainable. It is a continuous process of identification, monitoring and discussion. There is scope for further improvement, particularly concerning waste, energy and water management. The college in recent years consider the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. Even though the college does perform fairly well, the recommendations in this report highlight many ways in which the college can work to improve its actions and become a more sustainable institution.

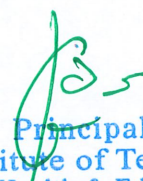


Figure 1: Good Environmental Practices for Sustainable Development.

6. Corollary:

From the green audit, the following conclusions can be made:

- ❖ Water management consists majorly of the rainwater harvesting systems that bring in a good amount of water that could be used during difficult times. More thought could be put into rainwater recharge pits that could replenish the ground water table.
- ❖ Food waste or wet waste, in general, can be turned into compost that can be used as enrichment for the green on the campus. This would help them institution lessen its dependence on the local authorities for disposal.
- ❖ E-waste is segregated, handled and disposed of properly in an eco-friendly and responsible manner.
- ❖ Reduction in the use of one-time-use plastics like bottles, cups, folders, pens and other decorations could help reduce the plastic waste menace on the campus.
- ❖ Wear masks signage were seen on the campus.


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